



APPENDIX A

44. A process of screening a candidate substance for its ability to interact with a mu opioid receptor comprising:
- providing a mu opioid receptor polypeptide;
 - obtaining a candidate substance; and
 - testing the ability of said candidate substance to interact with said opioid receptor.
45. The process of claim 44, wherein the step of testing the ability of the candidate substance to interact with the opioid receptor involves determining whether the candidate substance binds to the receptor.
46. The process of claim 44 wherein the step of testing the ability of the candidate substance to interact with the opioid receptor involves determining the binding affinity of the candidate substance to the receptor.
47. The process of claim 44 wherein the step of testing the ability of the candidate substance to interact with the opioid receptor involves determining whether the intrinsic activation ability of the candidate substance for the receptor.
65. A process for screening a candidate substance for its ability to interact with a mu opioid receptor comprising:
- providing a recombinant opioid receptor polypeptide encoded by a nucleic acid sequence comprising at least 35 contiguous nucleotides of SEQ ID NO:7;
 - contacting the substance with the recombinant opioid receptor polypeptide; and
 - detecting the ability of the candidate substance to interact with the recombinant opioid receptor polypeptide.
66. The process of claim 65, wherein nucleic acid sequence comprises at least the guanine nucleotide at position 161 of SEQ ID NO:7.

67. The process of claim 65, wherein the nucleic acid sequence comprises at least 40 contiguous nucleotides of SEQ ID NO:7.
68. The process of claim 65, wherein the nucleic acid sequence comprises at least 45 contiguous nucleotides of SEQ ID NO:7.
69. The process of claim 65, wherein the nucleic acid sequence comprises at least 50 contiguous nucleotides of SEQ ID NO:7.
70. The process of claim 65, wherein the nucleic acid sequence comprises at least 75 contiguous nucleotides of SEQ ID NO:7.
71. The process of claim 65, wherein the nucleic acid sequence comprises at least 100 contiguous nucleotides of SEQ ID NO:7.
72. The process of claim 65, wherein the nucleic acid sequence comprises the nucleotide sequence of SEQ ID NO:7.
73. The process of claim 65, wherein detecting the ability of the candidate substance to interact with the recombinant opioid receptor polypeptide involves measuring (i) binding ability; (ii) the ability of the recombinant opioid receptor polypeptide to bind the candidate substance; (iii) ability of candidate to activate ion channels in a cell membrane; or (iv) modulation of ion channels in the cell membrane.
74. The process of claim 65, wherein recombinant opioid receptor polypeptide is chimeric.
75. A process for screening a candidate substance for its ability to interact with an opioid receptor comprising:
- (a) expressing a recombinant opioid receptor polypeptide encoded by a nucleic acid sequence comprising at least 35 contiguous bases of SEQ ID NO:7;

- (b) contacting the candidate substance with the recombinant opioid receptor polypeptide; and
- (c) detecting the ability of the candidate substance to interact with the recombinant opioid receptor polypeptide.
76. The process of claim 75, wherein nucleic acid sequence comprises at least the guanine nucleotide at position 389 of SEQ ID NO:7.
77. The process of claim 75, wherein the nucleic acid sequence comprises at least 40 contiguous nucleotides of SEQ ID NO:7.
78. The process of claim 75, wherein the nucleic acid sequence comprises at least 45 contiguous nucleotides of SEQ ID NO:7.
79. The process of claim 75, wherein the nucleic acid sequence comprises at least 50 contiguous nucleotides of SEQ ID NO:7.
80. The process of claim 75, wherein the nucleic acid sequence comprises at least 75 contiguous nucleotides of SEQ ID NO:7.
81. The process of claim 75, wherein the nucleic acid sequence comprises at least 100 contiguous nucleotides of SEQ ID NO:7.
82. The process of claim 75, wherein the nucleic acid sequence comprises the nucleotide sequence of SEQ ID NO:7.
83. The process of claim 75, wherein recombinant opioid receptor polypeptide is chimeric.